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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/731,661	12/09/2003	Robert Eric Fesler	P05727 (NATI15-05727)	6371
23990	7590	11/02/2006	EXAMINER	
DOCKET CLERK P.O. DRAWER 800889 DALLAS, TX 75380			URICK, MATTHEW T	
			ART UNIT	PAPER NUMBER
			2113	
DATE MAILED: 11/02/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/731,661	FESLER, ROBERT ERIC	
	<b>Examiner</b>	<b>Art Unit</b>	
	Matt Urick	2113	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 August 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 May 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Final Rejection***

***Status of the Claims***

Claims 1-4, 6-10, and 12-19 are rejected under 35 USC 102

Claims 5, 11, and 20 are rejected under 35 USC 103.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 6-10, and 12-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Jacks (United States Patent 5,740,178).

As per claim 1, Jacks discloses:

A system for verifying data in a shadow memory, comprising:

a shadow memory initializer operable to detect an initialization event, to initialize a shadow memory based on the initialization event, and to calculate original verification data for the shadow memory; the shadow memory comprising a shadow data (column 4 lines 13-17, column 5 lines 7-23); and

a shadow memory verifier operable to detect a verification event and to verify the shadow data based on the verification event (column 4 lines 27-41).

As per claim 2, Jacks discloses:

The system of Claim the shadow memory initializer operable to initialize the shadow memory by storing the original verification data for the shadow memory (column 5 lines 7-23).

As per claim 3, Jacks discloses:

The system of Claim 2, the shadow memory verifier operable to verify the shadow data by calculating verification data and comparing the current verification data to the original verification data, the shadow data verified when the current verification data matches the original verification data and the shadow data rejected when the current verification data fails to match the original verification data (column 4 lines 27-41).

As per claim 4, Jacks discloses:

The system Claim the initialization event comprising one of the system being powered up (column 4 lines 43-45) and the shadow data being rejected (column 4 lines 41-43).

As per claim 6, Jacks discloses:

A system for verifying data in a shadow memory, comprising:

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a main memory operable to store main data persistently; and a shadow memory operable to store shadow data temporarily, the shadow data comprising a copy of the main data (column 2 lines 33-41, column 1 lines 41-52);

a shadow memory initializer operable to detect an initialization event and initialize the shadow memory based on the initialization event, and to calculate original verification data for the shadow memory (column 4 lines 13-17, column 5 lines 7-23);  
and

a shadow memory verifier operable to detect a verification event and to verify the shadow data based on the verification event (column 4 lines 27-41).

As per claim 7, Jacks discloses:

The system of Claim 6, the shadow memory initializer operable to initialize the shadow memory by storing the original verification data for the shadow memory (column 5 lines 7-23).

As per claim 8, Jacks discloses:

The system of Claim the shadow memory verifier operable verify the shadow data by calculating current verification data and comparing the current verification data to the original verification data, the shadow data verified when the current verification data matches the original verification data and the shadow data rejected when the current verification data fails to match the original verification data (column 4 lines 27-41).

As per claim 9, Jacks discloses:

The system of Claim 8, the initialization event comprising one of the system being powered up (column 4 lines 43-45) and the shadow data being rejected (column 4 lines 41-43).

As per claim 10, Jacks discloses:

The system of Claim 7, the shadow memory initializer operable to store the original verification data in the shadow memory (column 5 lines 7-23).

As per claim 12, Jacks discloses:

The system of Claim 6, the main memory comprising an EEPROM and the shadow memory comprising a RAM (column 1 lines 59-61).

As per claim 13, Jacks discloses:

A method for verifying data in a shadow memory, comprising:  
initializing a shadow memory, the shadow memory comprising shadow data (column 4 lines 13-17);  
detecting a verification event (column 4 lines 27-41); and  
verifying the shadow data based the verification event (column 4 lines 27-41) and  
calculating original verification data (column 5 lines 7-23);

As per claim 14, Jacks discloses:

The method of Claim 13, further comprising detecting an initialization event, initializing the shadow memory comprising initializing the shadow memory based on the initialization event (column 5 lines 7-23).

As per claim 15, Jacks discloses:

The method of Claim 13, initializing the shadow memory comprising copying main data stored a main memory into the shadow memory, and storing the original verification data (column 4 lines 13-17).

As per claim 16, Jacks discloses:

The method of Claim 15, verifying the shadow data comprising calculating current verification data and comparing the current verification data to the original verification data (column 4 lines 27-41).

As per claim 17, Jacks discloses:

The method Claim further comprising verifying the shadow data as valid when the current verification data matches the original verification data (column 4 lines 27-41).

As per claim 18, Jacks discloses:

The method of Claim 16, further comprising rejecting the shadow data when the current verification data fails to match the original verification data (column 4 lines 27-41).

As per claim 19, Jacks discloses:

The method of Claim 18, the initialization event comprising one of the system being powered up (column 4 lines 43-45) and the shadow data being rejected (column 4 lines 41-43).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5, 11, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jacks (United States Patent 5,740,178) in view of Meyer (United States Patent 5,953,352).

As per claim 5, Jacks fails to disclose:



The system of Claim 1, the verification event comprising one of a read request being received, a specified clock edge occurring, and a specified number of clock edges passing.

Meyer discloses a mirroring system which compares the data stored in primary and backup storage devices, and is able to correct faulty data. This can be done at clock intervals (column 6 line 60 – column 7 line 31: D flip-flop circuits synchronize at clock intervals to compare CRC's), or when data is read incorrectly (column 5 lines 7-13). Meyer discloses this system is able to maintain consistency between two sets of mirrored data (column 1 lines 45-52) using a CRC algorithm (column 2 line 65 – column 3 line 8). Jacks also discloses that his system aims to maintain reliable backup copies of data (Jacks column 1 lines 21-33). Using Meyer's system would enable the user to maintain both data sets by periodically comparing the data at clock intervals instead of only when data is written. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to incorporate the mirroring system of Meyer into the backup system of Jacks, as a means to maintain an accurate backup.

As per claim 11, Jacks discloses:

The system of Claim 6, the verification event comprising one of a read request being received, a specified clock edge occurring, and a specified number of clock edges passing.

Meyer discloses a mirroring system which compares the data stored in primary and backup storage devices, and is able to correct faulty data. This can be done at

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clock intervals (column 6 line 60 – column 7 line 31: D flip-flop circuits synchronize at clock intervals to compare CRC's), or when data is read incorrectly (column 5 lines 7-13). Meyer discloses this system is able to maintain consistency between two sets of mirrored data (column 1 lines 45-52) using a CRC algorithm (column 2 line 65 – column 3 line 8). Jacks also discloses that his system aims to maintain reliable backup copies of data (Jacks column 1 lines 21-33). Using Meyer's system would enable the user to maintain both data sets by periodically comparing the data at clock intervals instead of only when data is written. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to incorporate the mirroring system of Meyer into the backup system of Jacks, as a means to maintain an accurate backup.

As per claim 20, Jacks discloses:

The method of Claim 13, the verification event comprising one of a read request being received, a specified clock edge occurring, and a specified number of clock edges passing.

Meyer discloses a mirroring system which compares the data stored in primary and backup storage devices, and is able to correct faulty data. This can be done at clock intervals (column 6 line 60 – column 7 line 31: D flip-flop circuits synchronize at clock intervals to compare CRC's), or when data is read incorrectly (column 5 lines 7-13). Meyer discloses this system is able to maintain consistency between two sets of mirrored data (column 1 lines 45-52) using a CRC algorithm (column 2 line 65 – column 3 line 8). Jacks also discloses that his system aims to maintain reliable backup copies of

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data (Jacks column 1 lines 21-33). Using Meyer's system would enable the user to maintain both data sets by periodically comparing the data at clock intervals instead of only when data is written. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to incorporate the mirroring system of Meyer into the backup system of Jacks, as a means to maintain an accurate backup.

### ***Response to Arguments***

Applicant's arguments filed 8/18/06 have been fully considered but they are not persuasive. On page 8 of the remarks, applicant argues that Jacks does not disclose: "calculating verification data." Examiner respectfully disagrees.

Jacks teaches storing and verifying a unique key and sequence number for each update stored in the EEPROM (column 5 lines 7-21). This is done to verify which update is the latest, since the latest update will have the valid, updated data (column 2 line 66 – column 3 line 13). The system therefore calculates a unique key and sequence number for each update and writes it in the memory to indicate which update is the most recent. Therefore, the limitation "calculating verification data" is not considered distinct from the teachings of Jacks.

On page 9 of the remarks, applicant argues that there is no motivation to combine the Jacks and Meyer references. Examiner respectfully disagrees. Motivation for the combination of the two references was cited in the previous office action.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matt Urick whose telephone number is (571) 272-0805. The examiner can normally be reached on 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Beausoliel can be reached on (571) 272-3645. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MAZ

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*Robert H. Beausoleil*

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